Scientific Assistant (f/m/d)

Job description:
An effective technology for the separation of CO₂ from process and combustion exhaust gases is the reactive absorption in gas-liquid contact reactors. In this joint project, we will investigate (i) the hydrodynamic properties of the falling liquid films, (ii) their influence on the gas-liquid interface and (iii) the synergic effect between the chemical reaction kinetics and the mass transfer rates. The candidate will be mainly responsible for the mathematical modelling of the reactor and will contribute to the further development of the in-house developed turboSPH code for the reactive transport problem.

ITS is one of the world's leading institutes specialized in the field of aircraft engines and gas turbines, as well as hydraulic turbomachines. In cooperation with numerous industry and research partners, the institute pioneers in the development of efficient, reliable and eco-friendly technologies, bridging between the frontiers in measurement technologies, mathematical modelling, data science and the industrial applications. The candidate will be provided a state-of-the-art laboratory infrastructure, a creative and supportive working environment, opportunity to work collaboratively with leading experts and scientists, access to excellent international workshops and conferences.

Qualification:
The collaborative and challenging nature of the project requires curious, creative individuals with good communication skills and a proactive work attitude. The candidate should:

- hold an excellent Bsc and MSc degree in mechanical/aerospace/chemical/process engineering, or related subjects,
- have a solid background in numerical modelling, transport phenomena (particularly in two phase flows) and good programming skills,
- be proficient in spoken and written English.

Previous experience in reactor design and particle based methods (such as SPH) is highly desirable. Knowledge of optical measurement techniques (e.g. shadowgraph, Schlieren photography) and Labview are valuable assets.

Salary:
The remuneration occurs on the basis of the wage agreement of the civil service in TV-L E13.

Institute:
Institute for Thermal Turbomachines (ITS)

Contract duration: For a period of 24 months with a possibility of extension
Starting date: As soon as possible

Application up to: 15.05.2021

Contact person in line-management: For technical details please contact Ms. Hühn, lisa.huehn@kit.edu

Application: Please send your application including a cover letter, your CV, and all certificates/references in electronic form to: Ms. Hühn, lisa.huehn@kit.edu

Or by post to:
Karlsruhe Institute of Technology (KIT)
Institute of Thermal Turbomachinery
Ms. Lisa Hühn
Kaiserstraße 12
D-76131 Karlsruhe

We prefer to balance the number of female and male employees. Therefore, we kindly encourage female applicants to apply for this job.

Recognized severely disabled persons will be preferred if they are equally qualified.

KIT is certified as a family-friendly university (familienfreundliche Hochschule) and offers part-time employment, leaves for family-related reasons, dual career options, and individual coaching for family-work balance.

Karlsruher Institut für Technologie
Personalservice